STUDY OF SEISMIC PROPAGATION PATHS AND REGIONAL TRAVELTIMES IN THE CONTINENTAL UNITED STATES

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Progress Report for the month ending October 31, 1965

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Technical status--The Geological Survey recorded seismic waves generated by LONGSHOT at five stations on the Alaskan mainland, two stations on the Aleutian chain, five stations in Colorado, one station in Nevada, and one station in California, in addition to locations where we have a permanent-station recording capability. Distances ranged from 440 km at Attu to 5987 km at Trinidad, Colorado. Good quality seismograms were recorded at all stations (Table 1).

Reduced traveltimes of first arrivals are shown in Figure 1 with a comparison with the standard Jeffreys-Bullen curve. The time scale has been reduced by a velocity factor of 8.1 km/sec.

Table 1.--U.S.G.S. LONGSHOT Data

Station	Location		Distance	Traveltime	Amplitude*	Frequency	Type**
	Latitude	Longitude	Degrees		Mm	cycles/sec	Inst.
Hughes	N66°02.82'	W154°15.34'	19.865	$4^m\ 32.79^s$	173	0.7	a
Lay	N69°44.27'	W163°00.80'	20.176	$4^m\ 36.70^s$	374	1.8	a
Umiat	N69°22.63'	W152°06.81'	22.512	$4^m\ 59.43^s$	364	1.2	a
Unalaska	N53°51.24'	W166°30.00'	9.036	$2^m\ 13.22^s$	860	2.0	a
Arctic	68°07.68'	145°32.19'	23.863	$5^m\ 13.94^s$	166	2.0	a
Attu	N52°51.22'	E173°10.47'	3.963	$1^m\ 00.67^s$	2300	2.0	a
Anaktuvuk	N68°08.34'	W151°44.02'	21.878	$4^m\ 55.90^s$	930	0.8	a
TANGO	39°48.32'	W105°17.97'	51.841	$9^m\ 08.27^s$	48	1.7	b
PAPA	N39°50.07'	W105°19.73'	51.805	$9^m\ 08.42^s$	36	1.7	b
SIERRA	N39°46.38'	W105°16.96'	51.872	$9^m\ 08.62^s$	37	1.7	b
Trinidad	[illegible]	W104°41.78'	53.877				c
Durango	[illegible]	W107°47.00'	51.853	$9^m\ 09.0^s$			c
Cholame	N35°49.75'	W120°21.12'	45.152	$8^m\ 17.4^s$			c
Schurz	N38°57.33'	W118°48.82'	44.160	$8^m\ 01.2^s$			c
H.V.O.***	N19°23.88'	W155°17.76'		$7^m\ 18.0^s$			

* Amplitude is zero to peak of maximum in the first few cycles.

** Type a - 3-component 10-day recorders.
Type b - Eight channel standard refraction units.
Type c - LRSM Van.

*** Hawaiian Volcano Observatory.

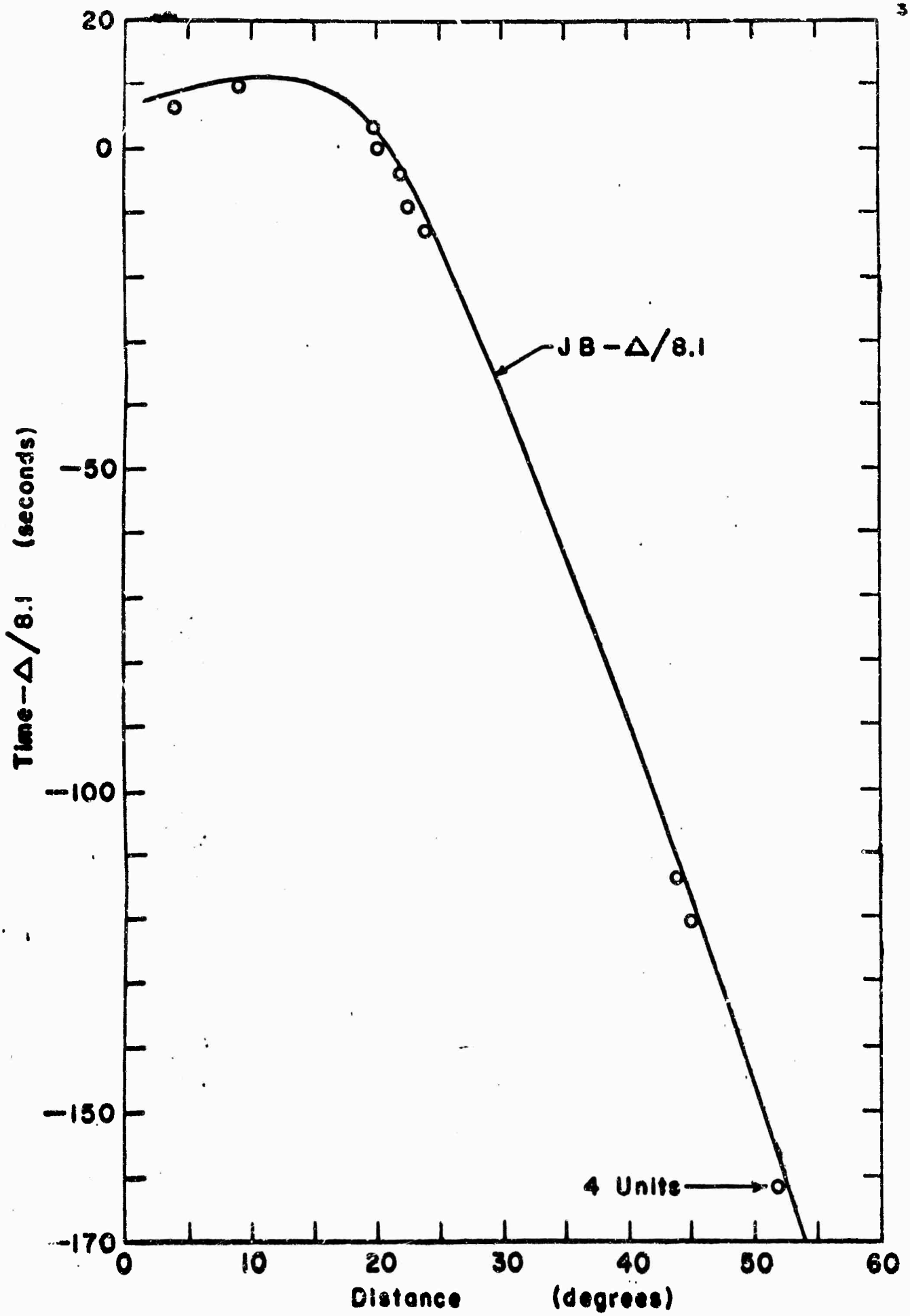

Figure 1.--Traveltime of first arrivals showing comparison with Jeffreys-Bullen curve.